

I-STEM Software Request - Guide Approval Form

User Details

- **Name of Researcher:** U. Aravind Madhav
- **User Type:** ☐ Ph.D. Scholar ☐ Postdoctoral Researcher ☐ Bachelor's ☒ Masters
- **Institution Name :** Special Centre for Nanoscience, Jawaharlal Nehru University, New Delhi
- **Institutional Contact No:** 267804699
- **Research Topic:** TFET based Biosensors

Software Request Details

- **Software Name:** Coventor
- **Justification for Software Request:**

The Coventor software request is warranted given its superior functionality to simulate TFET-based biosensors with accuracy. Coventor supports accurate BTBT and nonlocal quantum effect modeling, fundamental for TFET function. Coventor supports multiphysics simulation with electrical, chemical, and fluid dynamics that is important in the functionality of a biosensor. Heterogeneous material modeling (Si, Ge, III-V, 2D materials) and manufacturing process simulation to make it manufacturable are supported by the software as well. It also offers performance optimization tools for the analysis of critical parameters such as threshold voltage, subthreshold swing, and Ion/Ioff ratio, making it a must-have for TFET biosensor research and development.

Guide/Supervisor Approval

I, Dr. Neha Paras,

- Confirm that the above-mentioned researcher is affiliated with our institution
- Have reviewed the software request and its relevance to the researcher's academic work
- Approve the software request for research purposes

Approval Confirmation

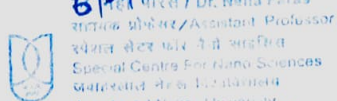
- I approve the software request
- The software aligns with the researcher's research objectives
- The request meets the institutional research guidelines

Guide/Supervisor Signature:

Date:

6/3/25

Neha Paras



Official Stamp/Seal: [Space for Institutional Stamp]

Important Notes

1. This form must be signed and scanned
2. The scanned copy must be uploaded with the software request
3. Electronic signatures are acceptable if from an official institutional email